AMENDMENT TO THE SPECIFICATION:

Please amend paragraphs [001, 004, 016, 017 and 019] as follows:

~~DESCRIPTION~~

BACKGROUND OF THE INVENTION

[001] (Currently amended) It is known to machine bores with an extremely high accuracy of size using arbor or mandrel honing. Examples are the machining of very small bores for car injection systems, the machining of bores in hydraulic components and the machining of the large and small offices in connecting rods.

SUMMARY OF THE INVENTION

[004] (Currently amended) ~~To solve this problem the invention proposes a method having the features of claim 1. Further developments of the invention form the subject matter of subclaims.~~

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] (Currently amended) Further features, details and advantages of the invention can be gathered from the following description of a preferred embodiment thereof, the claims, whose wording is by reference made into part of the content of the description, and the attached drawings, wherein show:

FIG. 1 ~~Diagrammatically~~ A schematic view of the cross-section through a bore prior to the start of the honing proposed by the invention.

FIG. 2 ~~The state~~ A schematic view of the bore after the first stroke.

FIG. 3 ~~The state~~ A schematic view of the bore after the first return stroke.

FIG. 4 ~~The state~~ A schematic view of the bore after the first remachining stroke.

FIG. 5 ~~The state~~ A schematic view of the bore at the end of remachining.

FIG. 6 A schematic view of the bore for machining with a different tool.

DETAILED DESCRIPTION

[017] (Currently amended) Fig. 1 diagrammatically shows the cross-section through a work-piece 1 with the bore 2 contained therein. The bore 2 has resulted from a preceding machining step and has been brought to a particular size by grinding, turning or some other machining method. The structure of the bore 2 is now to be smoothed and it is to be brought to its finished size. For this purpose a honing tool 3 is used, which is in fact a mandrel or arbor honing tool. This tool 3 contains a front, slightly conical cutting zone 4, which is shown in highly exaggerated form in the diagrammatic drawing. The tool 3 is moved at high rotational speed and low travel or stroke speed through the bore 2, so that there is an abrasion of the wall of the bore 2, i.e. the surface. The diameter of the bore increases and following the passage of the tool 3 has a surface structure with honing tracks 5. The state after the first passage of the tool 3 through the bore 2 is shown in Fig. 2. The honing tracks 5 are almost parallel to the surface 6 of the workpiece 1 or expressed differently almost perpendicular to the rotation axis of the honing tool 3. This angle differing only slightly from zero results from the high rotational speed of the tool compared with the stroke speed.

[019] (Currently amended) Now in a following ~~remachining~~ re-machining process the speed of the honing tool 3 is reduced and/or its stroke speed increased. After the first ~~remachining~~ re-machining stroke, the honing tracks 5 shown in fig. 4 are obtained, ~~and~~ which are now ~~under~~ disposed at a much larger angle. The angle corresponds to the angle during a conventional honing method, which functions with numerous strokes. In order to produce this structure of the honing tracks a single stroke is not sufficient, because the abrasion

of the material in the preceding operation has already taken place by arbor honing. The tool 3 must now be retracted again through the bore 2. As a result of a small diameter difference between the tool and the workpiece, the abrasive grains here only have a limited penetration depth. The tracks of the preceding downward stroke are retained. The small diameter difference can, in certain circumstances, be brought about in that the tool is somewhat relieved, so that its external diameter is slightly reduced to profile 3' shown in Fig. 5. This makes it possible for the honing tracks occurring during retraction to have the same depth as the honing tracks occurring during the forward stroke and as shown in fig. 4. Thus, a structure of the honing tracks is obtained in the manner shown in fig. 5 after retracting the honing tool. Peaks may be formed in the surface structure as result of the re-machining operation. These peaks can be reduced or flattened by using the same tool or a different tool 7 as shown in Fig. 6.